

pg 4



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/706,926	11/06/2000	Rajashri Joshi	N0069US	8587

7590 09/29/2003

NAVIGATION TEC. CORP.
PATENT DEPARTMENT
222 MERCHANDISE MART PLAZA
MERCHANDISE MART, SUITE 900
CHICAGO, IL 60654

EXAMINER

LE, MIRANDA

ART UNIT	PAPER NUMBER
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2177

DATE MAILED: 09/29/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/706,926

Applicant(s)

FRANK J. KO ZAK

Examiner

Miranda Le

Art Unit

2177

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 April 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other:

DETAILED ACTION

1. This communication is responsive to Amendment A, filed 04/01/2003.
2. Claims 1-27 are pending in this application. Claims 1, 8, 11, 13, 16, 20, 24 are independent claims. In the Amendment A, claims 8, 13, 16, 20 have been amended. This action is made non-Final.
3. The objection to the specification (i.e. Summary) of the invention has been withdrawn in view of the amendment.

Drawings

4. The drawings filed on 11/06/2000 are **not approved** by the Draftperson under 37 CFR 1.84 or 1.152 for the reasons submitted in Form PTO 948.

Claim Objections

5. Claim 23 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Examiner assumes that this claim should have been depended on claim 20, and addressed it accordingly.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-2, 5, 7-8, 11, 13, 16, 18, 20-22, 24, 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Fujita et al. (US Patent No 5,544,052).

Fujita anticipated independent claims 1, 8, 11, 13, 16, 20, 24 by the following:

As per **claim 1**, Fujita teaches “a method for representing cartographic data in a computer-based system... computing a plurality of wavelet and scaling coefficients corresponding to at least one function representing a geographic feature in a cartographic database” at col. 6, lines 8-49, col. 8, lines 1-39, col. 8, line 55 to col. 9, line 12, col. 10, lines 34-46, col. 18, lines 4-8, col. 18, line 47 to col. 19, line 8;

“storing the wavelet and scaling coefficients in a computer-usable database, the coefficients being usable for representing the cartographic data in the computer-based system” at col. 4, lines 9-51, col. 6, lines 36-49, col. 12, lines 7-16, col. 12, lines 17-57, Fig. 3 (Graphic Data 313).

As to **claims 8, 11**, Fujita teaches “a method of displaying on a computer output device a function representing a geographic feature...retrieving from a computer-usable database a plurality of wavelet and scaling coefficients associated with the geographic feature, the coefficients being derived from a plurality of data points specifying

Art Unit: 2177

geographic locations according to a predetermined reference system” at col. 6, lines 8-49, col. 8, lines 1-39, col. 10, lines 34-46;

“computing the function representing the geographic feature using the retrieved wavelet and scaling coefficients” at col. 6, lines 8-49, col. 8, lines 1-39, col. 8, line 55 to col. 9, line 12, col. 10, lines 34-46, col. 18, lines 4-8, col. 18, line 47 to col. 19, line 8;

“displaying the function on the computer output device” at col. 6, line 51 to col. 7, line 16.

As to claims 13, 16, Fujita teaches “a method of generating a computer-usable database that represents cartographic data using a plurality of wavelet and scaling coefficients...providing a predetermined database that represents the cartographic data using a plurality of data points specifying geographic locations” at col. 6, lines 36-49, col. 12, lines 7-16, col. 4, lines 9-51, Fig. 1 (Database 105), Fig. 3 (Graphic Data 313);

“computing a plurality of wavelet and scaling coefficients from the data points, wherein said wavelet and scaling coefficients are used to represent the cartographic data” at col. 6, lines 8-49, col. 8, lines 1-39, col. 8, line 55 to col. 9, line 12, col. 10, lines 34-46, col. 18, lines 4-8, col. 18, line 47 to col. 19, line 8;

“storing the wavelet and scaling coefficients in the computer-usable database” at col. 6, lines 36-49, col. 12, lines 7-16, col. 4, lines 9-51, Fig. 3 (Graphic Data 313).

As to claims 20, 24, Fujita teaches “a method for generating a database error metric ... computing a first plurality of wavelet and scaling coefficients from a plurality of first data points included in a first cartographic database, wherein said wavelet and

Art Unit: 2177

scaling coefficients represent geographic features” at col. 4, line 60 to col. 5, line 8, Fig. 1 (Database 105)

“computing a second plurality of wavelet and scaling coefficients from a plurality of data points included in a second cartographic database, wherein said wavelet and scaling coefficients represent geographic features” at col. 12, lines 17-57, Fig. 3 (Graphic Data 313);

“generating the database error metric based on a wavelet transform involving the first and second pluralities of wavelet coefficients” at col. 4, line 60 to col. 5, line 8, col. 12, lines 17-57, col. 17, line 56 to col. 18, line 8.

As per claim 2, Fujita teaches “the geographic feature is originally represented by a plurality of data points” at col. 10, lines 15-33, Figs. 12A-12B.

As per claim 5, Fujita teaches “the step of computing the wavelet coefficients and scaling coefficients includes applying a wavelet transform to a function defined by the data points representing the geographic feature” at col. 10, lines 15-33, col. 6, lines 8-34, col. 6, lines 36-51.

As per claim 7, Fujita teaches “the wavelet and scaling coefficients are computed using a semi-discrete orthonormal wavelet transform” at col. 19, lines 16-41.

Art Unit: 2177

As per claim 18, Fujita teaches “the wavelet coefficients and scaling coefficients are computed by applying a wavelet transform to a function defined by the data points representing a geographic feature” at col. 10, lines 15-33, Figs. 12A-12B.

As per claim 21, Fujita teaches “the error metric is a total error metric based on a plurality of wavelet scales” at col. 17, line 56 to col. 18, line 8.

As to claims 22, 26, Fujita teaches “selecting a wavelet scale; and restricting the error computation to the selected wavelet scale to generate a layer error metric” at col. 17, line 56 to col. 18, line 8.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 2177

9. Claims 3-4, 9-10, 12, 14-15, 17, 23, 25, 27, are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujita et al. (US Patent No 5,544,052), in view of Feigenbaum et al. (US Patent No. 5,737,508).

As to claims 3, 9, 12, 14, 17, 23, 27, Fujita teaches “the data points are selected from the group consisting of coordinate pairs” at col. 14, lines 31-54.

Fujita does not explicitly teach “a coordinate triples”. However, Feigenbaum teaches this limitation at col. 17, line 54 to col. 18, line 18.

Thus, it would have been obvious to one ordinarily skilled in the art at the time of the invention to combine the teachings of Fujita with the teachings of Feigenbaum to include “the data points are selected from the group consisting of a coordinate triples” in order to position objects on a surface or in a space in accordance with particular predetermined relationships with each other.

As to claims 4, 10, 15, Fujita does not expressly teach “the geographic feature is the boundary of a feature selected from the group consisting of a road, waterway, building, park, lake, railroad, track, and airport”. However, Feigenbaum teaches this limitation at col. 3, lines 29-36, col. 3, line 66 to col. 4, line 15.

Thus, it would have been obvious to one ordinarily skilled in the art at the time of the invention to combine the teachings of Fujita with the teachings of Feigenbaum to include “the geographic feature is the boundary of a feature selected from the group consisting of a road, waterway, building, park, lake, railroad track, and airport” in order

to provide a method for optimally typeface representing names of places or other cartographic features on a map.

As per claim 25, Fujita teaches "the error metric is a total error metric based on a plurality of wavelet scales" at col. 17, line 56 to col. 18, line 8.

10. Claims 6, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujita et al. (US Patent No 5,544,052), in view of Davision et al. (US Patent No. 6,516,099 B1).

As to claims 6, 19, Fujita does not explicitly teach "the step of computing the wavelet coefficients and scaling coefficients includes: computing the wavelet coefficients by performing a least-squares fit". However, Davision teaches this limitation at col. 20, lines 5-25.

Thus, it would have been obvious to one ordinarily skilled in the art at the time of the invention to combine the teachings of Fujita with the teachings of Davision to include "the step of computing the wavelet coefficients and scaling coefficients includes: computing the wavelet coefficients by performing a least-squares fit" in order to consider pixels within a surrounding area of the identified point in the second image and to produce a value indicating the degree of similarity between the point in the first image and the best matching point in the area in the second image.

Art Unit: 2177

Response to Arguments

11. Applicant's arguments regarding the Meek patent and the present application are commonly owned; and although Agrawal discloses performing wavelet transforms, the coefficients of Agrawal are not useable for representing cartographic database with respect to claims 1-27 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Miranda Le whose telephone number is (703) 305-3203. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Breene, can be reached on (703) 305-9790. The fax number to this Art Unit is (703) 746-7238. The TC 2100's Customer Service number is (703) 306-5631.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.



Miranda Le
September 12, 2003



GRETA ROBINSON
PRIMARY EXAMINER